AMENDMENTS TO THE CLAIMS

Claims 1.-18. (Cancelled).

19. (New) Method of producing polymers in a gas phase polymerization reactor,

the reactor having an elongated reactor body, defined by reactor walls, and an essentially vertically disposed central axis, the reactor comprising an upper part, in which a reactor bed of fluidized catalyst particles can be formed, and a lower part, in which monomer gas can be introduced, said upper and said lower parts being separated by a distribution plate having an annular opening along the reactor walls which promotes distribution into the fluidized bed of monomers flowing from the lower part into the upper part, wherein said method comprises:

- feeding a gas stream containing one or more monomers into the lower part of the reactor;
- polymerizing the monomers on the catalyst particles to form a polymer;
- withdrawing unreacted monomers; and
- recovering the polymer,
- wherein the gas stream is fed into the lower part of the reactor along the periphery of the inside of the reactor walls past the abutting distribution plate to prevent the formation of stagnant zones in the fluidized bed at the reactor walls in the vicinity of the distribution plate, and
- a single distribution plate is used in the reactor body, wherein at least 30% of the total flow of gas through the distribution plate is conducted along the periphery of the inside of the reactor walls.

20. (New) The method according to claim 19, wherein a gas stream is conducted along at least 80% of the periphery of the inside of the reactor walls abutting the distribution plate.

21. (New) The method according to claim 19, wherein a gas stream is conducted along 90-100 % of the periphery of the inside of the reactor walls abutting the distribution plate.

22. (New) The method according to claim 19, wherein the annular opening has a width of 2 to 20 mm.

23. (New) The method according to claim 19, wherein the flow rate of the gas stream conducted along the inside of the reactor walls is about 1 to 200 cm/s, preferably 10 to 100 cm/s, in particular 30 to 70cm/s.

24. (New) The method according to claim 19, wherein the distribution plate has openings, which are not covered by overcaps to allow for free flow of gas through the openings from the lower part of the reactor into the upper part.

25. (New) The method according to claim 19, wherein the openings of the distribution plate are essentially circular in cross-section.

26. (New) The method according to claim 19, wherein the part of the gas stream conducted along the inside reactor walls forms 40 %, of the total flow of gas through the plate.

27. (New) The method according to claim 19, wherein the annular opening has a width of 2 to 10 mm.

28. (New) The method according to claim 19, wherein the flow rate of the gas stream conducted along the inside of the reactor walls is about 10 to 100 cm/s.

29. (New) The method according to claim 19, wherein the flow rate of the gas stream conducted along the inside of the reactor walls is about 30 to 70cm/s.

30. (New) The method according to claim 20, wherein a gas stream is conducted along 90-100 % of the periphery of the inside of the reactor walls abutting the distribution plate.

31. (New) Apparatus for producing polymers by gas phase polymerization, comprising:

an elongated reactor body, defined by reactor walls, said reactor body having an essentially vertically disposed central axis, said reactor body comprising an upper part, in which a reactor bed of fluidized catalyst particles can be formed, and a lower part, in which monomer gas can be introduced, said upper and said lower parts being separated by a distribution plate which promotes distribution into the fluidized bed of monomers flowing from the lower part into the upper part;

at least one feed nozzle in the lower part of the reactor for introducing a gas stream containing monomers into the lower part of the reactor;

an outlet nozzle in the upper part of the reactor for recovering unreacted monomers; and

a discharge device in the upper part of the reactor for recovering polymer product from the reactor, wherein the distribution plate is fitted inside the reactor body in such a way that an essentially annular opening is formed between the periphery of the plate edge and the reactor wall to allow for the flow of at least 30% of the total flow of gas stream fed into the lower part of the reactor along the inside of the reactor walls past the distribution plate, and wherein a single distribution plate is fitted inside the reactor body.

32. (New) The apparatus according to claim 31, wherein the reactor body has a circular cross-section transversal to the central axis and the distribution plate has a circular periphery, the diameter of the distribution plate being 2 to 20 mm smaller than the inner diameter of the reactor body.

33. (New) The apparatus according to claim 31, wherein the openings of the distribution plate have a circular cross-section transversally to the central axis of the reactor.

34. (New) The apparatus according to claim 32, wherein the openings of the distribution plate have a circular cross-section transversally to the central axis of the reactor.